

What is claimed is:

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Art

1. An image-sensing device comprising:
a photoelectric conversion portion that outputs an electric signal natural-
logarithmically proportional to an amount of incident light; and
5 an output circuit that includes a temperature sensor and that corrects the
electric signal output from the photoelectric conversion portion on a basis of
ambient temperature detected by the temperature sensor.

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2. An image-sensing device as claimed in claim 1,
wherein the output circuit generates a factor that varies with the ambient
temperature inside the image-sensing device as detected by the temperature sensor,
and multiplies an output from the photoelectric conversion portion by the factor.

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3. An image-sensing device as claimed in claim 2,
wherein the factor becomes lower as the ambient temperature inside the
image-sensing device becomes higher.

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4. An image-sensing device as claimed in claim 1,
wherein the output circuit comprises:
a differential amplifier circuit that receives at a non-inverting input
terminal thereof a direct-current voltage; and

a voltage division circuit composed of two resistors connected in
series, of which one resistor has one end connected to an output terminal of the
differential amplifier circuit, and of which the other resistor receives at one end the

electric signal output from the photoelectric conversion portion, a node between the two resistors being connected to an inverting input terminal of the differential amplifier circuit,

wherein one of the two resistors constituting the voltage division circuit is a
5 temperature-sensitive resistor that serves as the temperature sensor.

5. An image-sensing device as claimed in claim 1,

wherein the output circuit comprises:

a differential amplifier circuit;

10 a first voltage division circuit composed of two resistors connected in series, of which one resistor receives at one end a direct-current voltage, and of which the other resistor receives at one end the electric signal output from the photoelectric conversion portion, a node between these two resistors being connected to a non-inverting input terminal of the differential amplifier circuit; and

15 a second voltage division circuit composed of two resistors connected in series, of which one resistor has one end connected to an output terminal of the differential amplifier circuit, and of which the other resistor receives at one end a direct-current voltage, a node between these two resistors being connected to an inverting input terminal of the differential amplifier circuit;

20 wherein one of the two resistors constituting the first voltage division circuit is a temperature-sensitive resistor that serves as the temperature sensor, and one of the two resistors constituting the second voltage division circuit is a temperature-sensitive resistor that serves as the temperature sensor.

6. An image-sensing device as claimed in claim 1,

wherein the output circuit comprises:

5 a differential amplifier circuit that receives at a non-inverting input terminal thereof the electric signal output from the photoelectric conversion portion; and

10 a voltage division circuit composed of two resistors connected in series, of which one resistor has one end connected to an output terminal of the differential amplifier circuit, and of which the other resistor receives at one end a direct-current voltage, a node between the two resistors being connected to the inverting input terminal of the differential amplifier circuit,

wherein one of the two resistors constituting the voltage division circuit is a temperature-sensitive resistor that serves as the temperature sensor.

7. An image-sensing device as claimed in claim 1,

15 wherein the photoelectric conversion portion comprises:

a photosensor that outputs an electric signal proportional to the amount of incident light; and

20 a transistor that is connected in series with the photosensor and that operates in a subthreshold region so as to convert the electric signal output from the photosensor into a signal logarithmically proportional to the amount of incident light.

8. An image-sensing device as claimed in claim 1,

wherein, as the photoelectric conversion portion, a plurality of photoelectric

conversion portions are provided, and the output circuit corrects all electric signals output from the plurality of photoelectric conversion portions.

9. An image-sensing device as claimed in claim 8,
5 wherein the plurality of photoelectric conversion portions are arranged in a matrix.

10. An image-sensing device comprising:
a plurality of pixels of which each outputs a plurality of color signals
10 proportional to amounts of light received in different color ranges;
an initial state setting portion that corrects the plurality of color signals output from each pixel in such a way that the color signals have a specific correlation with one another at a given color temperature;
a color temperature detection portion that detects a color temperature of a
15 subject to be sensed; and
a white balance adjustment portion that further corrects the plurality of color signals already corrected by the initial state setting portion in such a way that the color signals have the specific correlation with one another at the color temperature detected by the color temperature detection portion.

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11. An image-sensing device as claimed in claim 10,
wherein the initial state setting portion adds, to the color signals, first offset values that are set separately for the individual color signals beforehand.

12. An image-sensing device as claimed in claim 11,

wherein the white balance adjustment portion adds, to the color signals already corrected by the initial state setting portion, second offset values that are set separately for the individual color signals on a basis of the color temperature
5 detected by the color temperature detection portion.

13. An image-sensing device as claimed in claim 10,

wherein the specific correlation requires that all the color signals have equal signal levels at identical illuminance.

14. An image-sensing device as claimed in claim 10,

wherein the color temperature detection portion uses as a reference signal one of the plurality of color signals and detects a difference in signal level of each of the remaining color signals from the reference signal.

15. An image-sensing device as claimed in claim 10,

wherein the color temperature detection portion detects a color temperature by integrating the color signals output from the plurality of pixels.

16. An image-sensing device as claimed in claim 10,

wherein the pixels each comprise:

a photosensor that outputs an electric signal proportional to an amount of incident light; and

a transistor that is connected in series with the photosensor and that

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